

Title (en)
PLANAR TRANSFORMER AND RELATED DEVICE

Title (de)
PLANARTRANSFORMATOR UND ZUGEHÖRIGE VORRICHTUNG

Title (fr)
TRANSFORMATEUR PLANAIRE ET DISPOSITIF ASSOCIÉ

Publication
EP 4310871 A4 20240417 (EN)

Application
EP 21936386 A 20210414

Priority
CN 2021087201 W 20210414

Abstract (en)
[origin: EP4310871A1] This application provides a planar transformer and a related device. The planar transformer includes a magnetic core. The magnetic core includes a first magnetic core cover, a second magnetic core cover, n first magnetic core pillars, and k second magnetic core pillars, the n first magnetic core pillars and the k second magnetic core pillars are disposed between the first magnetic core cover and the second magnetic core cover, and n and k each are an integer greater than 0. A primary-side winding and a secondary-side winding that are coupled to each other are disposed on each of the n first magnetic core pillars, and an auxiliary inductor winding is disposed on each of the k second magnetic core pillars. When power is supplied, a first magnetic flux cancels a part of a second magnetic flux when passing through the first magnetic core cover and the second magnetic core cover, the first magnetic flux is a magnetic flux generated by auxiliary inductor windings disposed on the k second magnetic core pillars, and the second magnetic flux is a magnetic flux generated by primary-side windings disposed on the n first magnetic core pillars. The planar transformer provided in this application becomes thinner.

IPC 8 full level
H01F 27/28 (2006.01); **H01F 3/10** (2006.01); **H01F 27/26** (2006.01); **H01F 27/38** (2006.01); **H01F 30/10** (2006.01)

CPC (source: EP US)
H01F 3/10 (2013.01 - EP); **H01F 27/24** (2013.01 - US); **H01F 27/263** (2013.01 - EP); **H01F 27/2804** (2013.01 - EP US); **H01F 27/306** (2013.01 - US); **H01F 27/38** (2013.01 - EP); **H01F 30/10** (2013.01 - EP); **H01F 2027/2819** (2013.01 - EP)

Citation (search report)

- [X1] US 2017345541 A1 20171130 - YANG HAIJUN [CN], et al
- [X1] US 10910140 B2 20210202 - FEI CHAO [US], et al
- [X1] CN 112652438 A 20210413 - UNIV NANJING AERONAUTICS & ASTRONAUTICS
- See also references of WO 2022217494A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
EP 4310871 A1 20240124; **EP 4310871 A4 20240417**; CN 117063254 A 20231114; US 2024038437 A1 20240201; WO 2022217494 A1 20221020

DOCDB simple family (application)
EP 21936386 A 20210414; CN 2021087201 W 20210414; CN 202180096444 A 20210414; US 202318486469 A 20231013